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Claims

1. Method for authenticating a subscriber (MT,6) for utilizing services in a wireless LAN (WLAN,10) while using an IP multimedia subsystem (IMS,3) of a mobile radio network, characterized in that a subscriber (MT,6) who is to be authenticated and who is located at a location having wireless LAN coverage, receives an IP address from the wireless LAN (WLAN,10) in an attributed manner, after which the subscriber authenticates himself to the IP multimedia subsystem (IMS,3) while giving this IP address, by means of SIP registration, whereby an element (WAGW,2) of the wireless LAN (WLAN,10) is informed of the result of the authentication of the subscriber (MT,6) with regard to the IP multimedia system (IMS,3).

2. Method according to Claim 1, characterized in that a subscriber (MT,6) of a wireless LAN (WLAN,10) in an IP multimedia subsystem (IMS,3) is authenticated while using a home subscriber system (HSS,5).

3. Method according to one of the above claims, characterized in that a subscriber (MT,6) in a wireless LAN (WLAN,10) in an IP multimedia subsystem (IMS,3) is authenticated while using an authentication server (AAA server).

4. Method according to one of the above claims, characterized in that the subscriber (MT,6) transmits, via the wireless LAN (WLAN,10), an SIP register message to a device (CSCF,4) of the IP multimedia system (IMS,3), which transmits a request for authentication of this IP multimedia subsystem (IMS,3)

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subscriber, using the mechanisms provided for an IP multimedia subsystem authentication, to the home subscriber system (HSS,5), after which the home subscriber system (HSS,5) authenticates the subscriber (MT,6) using these mechanisms and  
5 communicates the result of the authentication to the wireless LAN access gateway (WAGW,2).

5. Method according to one of the above claims, characterized in that  
10 an association is implemented between the subscriber terminal (MT,6) and the wireless LAN (WLAN,10) for the purpose of transmitting and receiving via the radio interface between subscriber (MT,6) and wireless LAN (WLAN,10).

15 6. Method according to one of the above claims, characterized in that  
the subscriber terminal (MT,6) receives an IP address from the address area of the wireless LAN (WLAN,10), with which - together with all other IP transport-based data - it can  
20 transmit and receive SIP messages that transport authentication messages from and to the IP multimedia subsystem (IMS,3).

7. Method according to one of the above claims,  
25 characterized in that  
the access to services is controlled via a wireless LAN access gateway (WAGW,2), which monitors successful authentication in the IP multimedia subsystem (IMS,3).

30 8. Method according to one of the above claims, characterized in that  
the wireless LAN (WLAN,10) is connected to the IP multimedia subsystem (IMS,3) via a Gi interface.

9. Method according to one of the above claims,  
characterized in that  
the wireless LAN (WLAN,10) is connected to the IP multimedia  
subsystem (IMS,3) via an Mm interface.

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10. Method according to one of the above claims,  
characterized in that  
the result of the authentication (P-CSCF,1) is fed to the  
wireless LAN access gateway (WAGW,2) by a (proxy-call state  
10 control function)/policy control function (P-CSCF,1) at a  
location having wireless LAN coverage.

11. Method according to Claim 7,  
characterized in that

15 the wireless LAN (WLAN,10) has a proxy-call state control  
function node (P-CSCF,1) which forwards the SIP messages to  
the corresponding entity in the IP multimedia subsystem  
(IMS,3) and controls the WLAN access gateway (WAGW,2) with  
regard to the authentication result of the IP multimedia  
20 subsystem (IMS,3).

12. Method according to Claim 7,  
characterized in that  
instructions are provided to the WLAN access gateway (WAGW,2)  
25 on the basis of the result of the authentication in the IP  
multimedia subsystem (IMS,3), as to how the data traffic of a  
subscriber (MT,6) is to be handled by the wireless LAN access  
gateway (WAGW,2), in particular instructions regarding the  
blocking of data traffic.

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13. Method according to one of the above claims,  
characterized in that  
the proxy-call state control function (P-CSCF,1), by means of  
a policy control function, controls the data traffic through

the wireless LAN access gateway (WAGW,2) and grants, restricts, increases or declines the quantity and/or quality of the data flow of a subscriber (MT,6) through the wireless LAN access gateway (WAGW,2).

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14. Method according to one of the above claims, characterized in that the policy control function is part of the proxy-call state control function node (P-CSCF,1) or is a separate unit.

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15. Method according to one of the above claims, characterized in that the result of the authentication is fed to the wireless LAN access gateway (WAGW,2) by the call state control function (CSCF,4) /policy control function in the IP multimedia subsystem (IMS,3).

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16. Method according to Claim 12, characterized in that

20 the call state control function node (CSCF,4) of the IP multimedia subsystem (IMS,3) controls the wireless LAN access gateway (WAGW,2) with regard to the authentication result of the IP multimedia subsystem (IMS,3).

25 17. Method according to Claim 13, characterized in that

a Go interface is installed between the call state control function node (CSCF,4) of the IP multimedia subsystem (IMS,3) and the wireless LAN access gateway (WAGW,2), for protected  
30 data transfer.

18. Method according to one of the above claims, characterized in that

the authentication result is evaluated by expanded functionalities in the wireless LAN access gateway (WAGW,2).

19. Method according to Claim 16,

5 characterized in that

the authentication result received from the IP multimedia subsystem (IMS,3) is converted by the wireless LAN access gateway (WAGW,2), whereby said WLAN access gateway (WAGW,2) allows subscriber data to pass through completely or with  
10 restrictions.

20. Method according to Claim 13,

characterized in that

the evaluation of the authentication result is implemented  
15 using an "application layer gateway".

21. Method according to one of the above claims,

characterized in that

the subscriber (MT,6) of the wireless LAN (WLAN,10) is also a  
20 subscriber of the mobile communication network.

22. Method according to one of the above claims,

characterized in that

the wireless LAN network (WLAN,10) is integrated into mobile  
25 communication networks with the help of ETSI HiperLan and IEEE 802.11.

23. Device for authenticating a subscriber (MT,6) for

utilizing services in a wireless LAN (WLAN,10) with the help  
30 of an IP multimedia subsystem (IMS,3) of a mobile radio network, said device having

- an IP multimedia system (IMS,3) for authenticating a subscriber (MT,6) who is to be authenticated by means of SIP registration, and who is located at a location having wireless

LAN coverage, by giving an IP address allocated by the wireless LAN (WLAN,10), and

- an IP multimedia subsystem (IMS,3) for informing an element (WAGW,2) of the wireless LAN (WLAN,10) of the result of the authentication of the subscriber (MT,6) with regard to the IP multimedia subsystem (IMS,3).

24. Device according to Claim 23, characterized in that

10 a device constituting the proxy call state control function node (CSCF,1) is a node in the wireless LAN (WLAN,10).

25. Device according to one of Claims 23 to 24, characterized in that

15 the device constituting the proxy call state control function node (CSCF,1) of the IP multimedia subsystem (IMS,3) is provided for controlling authentication in the wireless LAN (WLAN,10).

20 26. Device according to one of Claims 23 to 25, characterized in that

the wireless LAN access gateway (WAGW,2) has a device that is configured such that said device converts the authentication result which is received from the IP multimedia subsystem (IMS,3), by allowing subscriber data to pass through completely or with restrictions.